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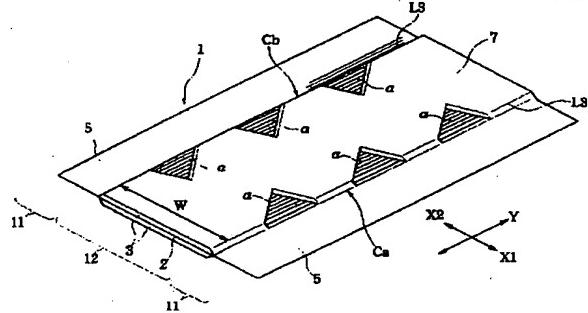
(54)【発明の名称】 清掃用シート

(57)【要約】

【課題】 従来の拭き取り用の清掃用シートでは、拭き取り領域と取付け領域の縁部にゴミが溜まりやすい一方、拭き取り領域全体を有効に利用できるものではなく、捕集効率が低いものであった。

【解決手段】 拭き取り領域と取付け領域の縁部に凹部 $\alpha$ を設けたことにより、この凹部 $\alpha$ を介して比較的大きなゴミを清掃用シートの中央部に導くことができる。また凹部 $\alpha$ においてもゴミを捕集することができるため、清掃用シートの捕集面積が実質的に拡張され、清掃用シート全体の捕集効果を高めることができる。

図1



## 【特許請求の範囲】

【請求項1】 繊維層を有して所定厚さに形成された嵩高の拭き取り領域と、前記拭き取り領域の両側部から延びる前記拭き取り領域よりも薄い取付け領域とを有する清掃用シートにおいて、前記拭き取り領域と前記取付け領域との境界部から前記拭き取り領域内に入り込む凹部が、前記境界部に沿って間隔を空けて複数箇所形成されていることを特徴とする清掃用シート。

【請求項2】 個々の凹部の平面形状は、前記境界部で幅寸法が最も広く、前記拭き取り領域の中心に向って徐々に幅寸法が狭くなる形状である請求項1記載の清掃用シート。

【請求項3】 前記拭き取り領域の一方の側の前記境界部から前記拭き取り領域に入り込む複数の凹部と、他方の側の前記境界部から前記拭き取り領域内に入り込む複数の凹部とが、前記境界部に沿う方向へ互いに位置がずれて配置されている請求項1または2記載の清掃用シート。

【請求項4】 前記凹部は、前記繊維層が加圧されまたは溶着されることにより形成されている請求項1～3のいずれかに記載の清掃用シート。

【請求項5】 前記凹部内では、前記繊維層が多数のドット状にまたは多数のストライプ状に加圧されまたは溶着されることにより形成されている請求項4記載の清掃用シート。

【請求項6】 前記拭き取り領域では、基材シートに前記繊維層が積層されている請求項1～5のいずれかに記載の清掃用シート。

【請求項7】 基材シートの両面に前記繊維層が積層され、前記拭き取り領域と前記凹部とが、前記基材シートの表裏両面に設けられている請求項6記載の清掃用シート。

【請求項8】 前記基材シートと前記繊維層とを形成する繊維が熱溶着可能な繊維を含み、前記凹部において前記基材シートと前記繊維層とが少なくとも部分的に溶着されている請求項1～7のいずれかに記載の清掃用シート。

【請求項9】 前記繊維層を形成する繊維が、前記境界部とほぼ平行に延びる長尺繊維を含む請求項1～8のいずれかに記載の清掃用シート。

【請求項10】 前記長尺繊維が、前記凹部以外の部分で部分的に溶着されている請求項9記載の清掃用シート。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】 本発明は、例えば清掃用モップに取り付けられて床面（被清掃面）などの汚れを拭き取る使い捨て清掃用シートに係わり、特に清掃用シートの全面を効率良く使用可能とし、ゴミ等の捕集能力を高めた清掃用シートに関する。

## 【0002】

【従来の技術】 いわゆる使い捨て清掃用シートは、その表面に現れている繊維の複雑な絡みを利用してゴミやホコリを捕集するものであり、例えば清掃用モップの先端に設けられたプレートに取り付けられて使用される。

【0003】 このようなモップを用いて拭き掃除を行なうと、プレートの底面が平面形状であるため、清掃用シートのうちの前記プレートの縁部を覆う部分にゴミが溜まりやすい一方、清掃用シートのうちの前記プレートの底面中央の領域ではゴミを捕集しにくく、清掃用シート全体が有効に利用できないという問題がある。

【0004】 図8は前記の欠点を解消するための従来の清掃用シートを示す側面断面図、図9は従来の他の形態を示す側面断面図、図10は従来の清掃用シートの使用状態の一例であり、図8に示す清掃用シートの側面図である。

【0005】 図8に示す清掃用シート（清掃用シート）は例えば特開平10-5163号公報に開示されているものと同種のものであり、シート31の中間域31aの厚さ寸法が、その両端の周縁域31b、31bの厚さ寸法に比べ、相対的に厚く形成されている。このシート31を清掃用モップMなどに取り付けると、前記中間域31aが清掃用モップMのプレートMpの中央の領域に位置する。このシート31で床面等の被清掃面を拭く際には、中間域31aが被清掃面に当接するとともに、前記周縁域31bと被清掃面との間に段差部32aが形成される。そして、被清掃面に沿って清掃用モップMを移動させ拭き取り作業を行なうことにより、比較的大きなゴミを前記段差部32aに集めることができ、捕集効果を高めることが可能となっている。

【0006】 また、図9に示されるものでは、図8に示すものとは異なり、清掃用モップMのプレートMpの底部そのものが凸型形状に形成され、この凸状の底面M1とその縁部M2、M2との間に段差部32b、32bが形成される。この清掃用モップMの底面M1を清掃用シート（平面シート）31'で覆って清掃を行うと、前記段差部32bの部分で比較的大きなゴミを捕集できる。

## 【0007】

【発明が解決しようとする課題】 しかし、上記従来の技術では以下に示すような問題がある。図8又は図9に示す従来のものでは、清掃用シート31の中間域31aまたは清掃用モップMの底面M1を覆っている清掃用シート31'が被清掃面とが当たる面積が清掃用モップMの底面の面積よりも狭くなっているため、清掃用モップMが被清掃面に対して不安定となりやすい。例えば、図10に示すように清掃用モップMを被清掃面に沿ってX方向へ移動させたときに清掃用モップMに作用する力が、被清掃面に対しプレートMpを傾けるように作用しやすい。このように清掃用モップMのプレートMpが傾斜姿勢の状態で被清掃面が拭き取られると、清掃用モップM

を被清掃面に対してスムーズに移動させることができない。

【0008】また前記のものは、比較的大きなゴミを段差部32a又は32bで捕集することにより捕集効果を高める構成であるが、清掃用モップMが傾斜姿勢で移動すると、清掃用モップMの移動方向(X方向)に対し、図8に示されるものではシート31の周縁域31bの端部が、また図9に示されるものでは清掃用モップMの縁部M2が被清掃面と接触し、これらが前記段差部32a又は32bの前方に位置することになる。よって、段差部32a又は32b内へのゴミの進入が妨げられ、捕集効果を十分に得ることができないという問題がある。

【0009】本発明は上記従来の課題を解決するためのものであり、ゴミの捕集を安定して行える清掃用シートを提供することを目的としている。また、本発明はゴミの捕集能力の高い清掃用シートを提供することを目的としている。

#### 【0010】

【課題を解決するための手段】本発明は、繊維層を有して所定厚さに形成された嵩高の拭き取り領域と、前記拭き取り領域の両側部から延びる前記拭き取り領域よりも薄い取付け領域とを有する清掃用シートにおいて、前記拭き取り領域と前記取付け領域との境界部から前記拭き取り領域内に入り込む凹部が、前記境界部に沿って間隔を空けて複数箇所形成されていることを特徴とするものである。

【0011】上記清掃用シートは、例えば拭き取り領域が、清掃用モップのプレートの底面に設置され、取付け領域が前記プレートの上面に巻き上げられ、取付け領域の少なくとも一部が前記プレートの上面に固定される。好ましくは、前記拭き取り領域の面積が、プレートの底面とほぼ等しく形成される。

【0012】拭き取り領域は、その面積をプレートとほぼ等しくできるため、清掃用モップに取り付けられた状態で、前記拭き取り領域を床面等の被清掃面に当てたときに、清掃用モップのプレートが安定し、図10に示すようにプレートが傾斜するなどの問題が生じない。また拭き取り領域と取付け領域の境界部から拭き取り領域に入り込む凹部が形成されているため、この凹部内に比較的大きな埃を取り込むことができ、拭き取り領域の比較的広い領域を有效地に使用して清掃することができる。

【0013】上記において、個々の凹部の平面形状は、前記境界部で幅寸法が最も広く、前記拭き取り領域の中心に向って徐々に幅寸法が狭くなる形状であることが好ましい。

【0014】また、前記拭き取り領域の一方の側の前記境界部から前記拭き取り領域に入り込む複数の凹部と、他方の側の前記境界部から前記拭き取り領域内に入り込む複数の凹部とが、前記境界部に沿う方向へ互いに位置がずれて配置されていることが好ましい。このように拭

き取り領域の両側部に形成される凹部の位置を相違させると、清掃用シートを両方向へ動かしたときに、前記両側部に設けられたそれぞれの凹部により被清掃面の異なる場所の埃を捕捉することができる。

【0015】前記凹部は、前記繊維層が加圧されまたは溶着されることにより形成される。この場合、前記凹部内では、前記繊維層が多数のドット状にまたは多数のストライプ状に加圧されまたは溶着されることにより形成されることが好ましい。このように凹部において繊維層がドットまたはストライプにより部分的に溶着されいると、凹部内で繊維層の繊維が表面に現れることになり、この繊維により埃やごみを捕捉しやすくなる。

【0016】また本発明の清掃用シートは、前記拭き取り領域で、基材シートに前記繊維層が積層されていることにより構成できる。また、基材シートの両面に前記繊維層が積層され、前記拭き取り領域と前記凹部とが、前記基材シートの表裏両面に設けられるこにより、清掃用シートの表裏両面を使用して拭き取りをできる。

【0017】前記基材シートと前記繊維層とを形成する繊維が熱溶着可能な繊維を含み、前記凹部において前記基材シートと前記繊維層とが少なくとも部分的に溶着することが可能である。また凹部は、単なる加圧、または溶着を伴わない加熱加圧で形成してもよい。

【0018】また、前記繊維層を形成する繊維が、前記境界部とほぼ平行に延びる長尺繊維を含むものであってもよい。または単繊維の集合により繊維層が形成されてもよい。前記長尺繊維を用いる場合、前記凹部以外の部分で部分的に溶着されていることが好ましい。このように構成すると、トウなどの長尺繊維がばらつくことがなく、長尺繊維と長尺繊維との隙間で細かな埃を捕捉できるようになる。

#### 【0019】

【発明の実施の形態】図1は本発明の清掃用シートの第1の実施の形態を示す斜視図、図2は前記清掃用シートの縁部の構造を示す拡大断面図、図3は図1の清掃用シートをX1又はX2方向から見たときの側面図である。図1に示す清掃用シート1は、基材シート2の表裏両面に繊維層3が形成されている。繊維層3は、X方向(横方向:幅方向)に所定幅寸法を有してY方向(縦方向)へ延びる長方形状である。

【0020】繊維層3は、清掃用シート1のX方向の中央の領域に設けられ、清掃用シート1のX方向の両側部では、図2に示すように基材シート2の突出部2aの表裏両面に補助シート5、5が積層されている。したがって、繊維層3のX方向の両側部は基材シート2と補助シート5の一部とで挟まれている。図2のA点で、基材シート2の突出部2aと補助シート5、5とが互いに接合されている。またB点では、補助シート5、5の縁部どうしが接合されている。また後に説明する凹部αの部分および必要に応じて他の部分で、繊維層3と基材シート

2、あるいは繊維層3と基材シート2と補助シート5、5とが互いに接合されている。

【0021】図1に示すように、基材シート2上に繊維層3が表裏両面に積層されている部分が拭き取り領域12である。またX方向の両側部の補助シート5が延びている部分は、清掃用モップなどへ取付けるための取付け領域11となっている。基材シート2および補助シート5、5は、サーマルボンド、スパンボンド、スパンレスなどの不織布であり、PE、PP、PETまたはこれらの複合繊維などの熱溶着可能な繊維を含んでいる。また補助シート5、5はポイントボンド不織布が好ましい。または基材シート2、補助シート5、5がフィルムや不織布や紙であってもよい。前記繊維層3は、Y方向に延びる多数の長繊維(トウ)または多数の短冊状フィルム(BSヤーン)などの長尺繊維が束ねられたものである。この長繊維または短冊状フィルムもPE、PP、PETまたはこれらの複合材料により形成されている。

【0022】基材シート2、補助シート5、繊維層3が熱溶着可能な繊維を含んでいる場合、図2に示すA点で補助シート5、5と基材シート2とが熱溶着され、B点で補助シート5と補助シート5とが熱溶着され、さらに凹部 $\alpha$ ならびに必要に応じて他の部分で基材シート2と繊維層3、または基材シート2と繊維層3と補助シート5、5が熱溶着されている。

【0023】または繊維層3はエアースルー不織布などの嵩高で繊維密度の低い不織布により形成されていてもよい。このエアースルー不織布などは、前記基材シート2にホットメルト型接着剤で接着されていてもよいし、またはエアースルー不織布などと基材シート2とが熱溶着されていてもよい。

【0024】また図1に示す清掃用シート1では、拭き取り領域12と取付け領域11との境界部Ca、Cbから、拭き取り領域12に入り込む複数の凹部 $\alpha$ が境界部Ca、Cbに沿って複数個形成されている。各凹部 $\alpha$ は境界部Ca、Cbで幅寸法が最も広く、拭き取り領域12の中心部に向けてその幅寸法が徐々に小さくなる平面形状であり、例えば凹部 $\alpha$ は三角形である。またはU字形であってもよい。

【0025】境界部Ca、Cbでは、凹部 $\alpha$ がY方向へ一定の間隔で設けられているが、境界部Caに沿って並ぶ凹部 $\alpha$ と、境界部Cbに沿って並ぶ凹部 $\alpha$ とが、Y方向へ位置をずらすようにして設けられている。その結果、清掃用シート1を被清掃面に沿ってX1方向へ移動させたときとX2方向へ移動させたときと、境界部Ca側の凹部 $\alpha$ と、境界部Cb側の凹部 $\alpha$ とで異なる部分の埃を拭き取れるようになる。

【0026】これら凹部 $\alpha$ は、繊維層3の一部を加圧あるいは加熱加圧し、または繊維層3と基材シート2とが熱溶着可能な繊維を含んでいるときには熱溶着することにより形成できる。この場合、凹部 $\alpha$ 全域を加圧しました

は加熱加圧しあるいは熱溶着してもよいが、凹部 $\alpha$ 全面を加圧しすぎると、凹部 $\alpha$ 内で繊維層3の繊維が埃やごみの捕捉効果を発揮できなくなる。よって凹部 $\alpha$ 内で、前記加圧または加熱加圧部(エンボス部)あるいは溶着部をドット状にまたはY方向へ延びてX方向へ平行なストライプ状に形成すると、凹部 $\alpha$ 内の繊維で埃やごみの捕捉効果を発揮できる。

【0027】図3に示すように、この清掃用シート1をX1方向またはX2方向から見たとき、凹部 $\alpha$ が薄肉部でその他の部分が嵩高部(厚肉部)7になる。なお、繊維層3は基材シート2の片面のみに設けられていてよいしまたは両面に設けられていてよい。繊維層3が基材シート2の両面に設けられている場合に、前記凹部 $\alpha$ は、片面側の繊維層3のみに設けられていてよいし、または両面の繊維層3のそれぞれに設けられていてよい。

【0028】図7に示すように、清掃用シート1は清掃用モップMに取り付けられて使用することができる。清掃用モップMは、プレート21に柄22が取り付けられている。本発明の清掃用シート1は、拭き取り領域12がプレート21の底部側に設置され、床などの被清掃面の対向面に設置され、清掃用シート1の両端部の取付け領域11がプレート21の上面に巻き上げられ、保持クリップ23により保持される。

【0029】清掃用モップMのプレート21を被清掃面に沿ってX方向へ摺動させる際、拭き取り領域12の嵩高部7は、十分に広い幅寸法Wを有しているため、拭き取りシート1の拭き取り領域12が前記の広い幅寸法Wで被清掃面に当たることになり、拭き取り領域12と被清掃面との密着が安定し、従来のようにプレート21が傾くことがない。またそのためには、清掃用シート1の拭き取り領域12の幅寸法Wとプレート21の幅寸法がほぼ一致し、拭き取り領域12とプレート21の底面との面積がほぼ等しいことが好ましい。

【0030】また境界部Ca、Cbに沿って複数の凹部(薄肉部) $\alpha$ が形成されているため、プレート21を被清掃面に沿ってX1方向およびX2方向へ移動させたときに、凹部 $\alpha$ が被清掃面上の埃や比較的大きなごみを有效地に捕捉できる。また被清掃面上の埃は前記凹部 $\alpha$ 内で集められて拭き取り領域12の中央部に集められるため、細かな埃を凹部 $\alpha$ 以外の嵩高部7によって捕捉しやすくなり、従来のように拭き取り領域の縁部のみに埃が溜まることがない。その結果、拭き取り領域12の全域を有效地に使用して、清掃を行うことができる。

【0031】特に、凹部 $\alpha$ 内の加圧、加熱加圧あるいは熱溶着をドット状、さらに好ましくはY方向に延びるストライプ状にすると、凹部 $\alpha$ 内の繊維で埃やごみを取りやすくなる。また凹部 $\alpha$ が三角形などであると凹部 $\alpha$ の頂点の部分で大きなごみを捕捉しやすくなる。

50 さらに境界部Caと境界部Cbで凹部 $\alpha$ がY方向へ位置

がずれて互い違いに設けられていると、プレート21をX1方向へ摺動させたときとX2方向へ摺動させたときとで、被清掃面の異なる部分のごみを凹部 $\alpha$ で捕捉できるようになる。

【0032】図4は、清掃用シートの第2の実施の形態を示す平面図である。図4に示すものでは、清掃用シートの拭き取り領域12の両側の境界部CaとCbから拭き取り領域12の中央に向けて正方形又は長方形形状の凹部 $\alpha$ 1が形成されている。このような形状に形成することによっても、上記同様にゴミやホコリを安定して効率良く捕集することができる。なお、上記のように凹部の形状は、三角形状、U字形状、正方形又は長方形に限られるものではなく、その他例えば半円状のものなど任意の形状とすることができます。

【0033】図5は清掃用シートの繊維層3をトウ(長纖維)3aまたは短冊状フィルムなどの長尺纖維で形成された場合の詳しい構造を示す平面図、図6は図5に示される清掃用シートの部分拡大斜視図である。

【0034】この清掃用シート1の構造は、図1と図2に示したものと同様に、基材シート2の両側に繊維層3、3が積層され、繊維層3、3の両側部に補助シート5、5が重ねられているものである。繊維層3は、トウ(長纖維)3aまたは短冊状フィルム(BSヤーン)などの長尺纖維材料を束ねたものであり、トウ3aなどの延びる方向はY方向(縦方向)である。繊維層3が積層されている拭き取り領域12および、補助シート5、5が延びる取付け領域11、11ならびに境界部Ca、Cbにおいて、熱溶着線4がX方向およびY方向に対して斜めに前記トウ3aなどを横断するように形成されており、この熱溶着線4がX方向およびY方向へ規則的に配列している。

【0035】その結果、図6に示すように、熱溶着線4の端部4aと4aとの間で、トウ3aなどの長尺纖維に膨らみが形成され、トウ3aなどの側部にポケット16が形成されて、このポケット16で細かな埃の捕捉が可能になる。また、凹部 $\alpha$ 内では、トウ3aの延びるY方向に沿い且つX方向に細かなピッチで形成されたストライプ状の加圧部または加熱加圧部(熱エンボス)あるいは溶着部が形成されている。

【0036】図5に示すものでは、凹部 $\alpha$ によって比較的大きなごみが捕捉されると共に、この凹部 $\alpha$ により埃やごみが拭き取り領域12の中央部に導かれ、凹部 $\alpha$ 以外の嵩高部では図6に示すポケット16により埃が捕捉される。よって拭き取り領域12の全域をさらに有効にしようできる。

【0037】なお、本発明の清掃用シートの使用は清掃用モップに取り付けて使用される場合に限られない。例えば、清掃用シートを手で保持して使用したり、ハンディモップに取り付けて使用することが可能である。

【0038】また本発明の清掃用シートには、ホコリ等

を吸着しやすくするために油剤を含有させることができ。油剤は、パラフィン等の鉱物油、ポリオレフィン等の合成油、シリコーン油、界面活性剤などである。またこの油剤を拭き取り領域12において凹部 $\alpha$ 以外の嵩高部7のみに含ませることができる。この場合、凹部 $\alpha$ では比較的大きなごみが捕捉でき、細かな埃は油剤を含ませた嵩高部7で保持しやすくなる。また前記油剤の他、本発明における清掃用シートに、例えば消臭剤、保湿剤、抗菌剤等の物質を含有させることができる。

- 10 【0039】なお、前記拭き取り領域12と凹部 $\alpha$ の形成構造として、基材シート2を嵩高な不織布や発泡樹脂材料あるいはゴム材料などで形成すると共に、この基材シート2にプレスやエンボスにより凹部 $\alpha$ を形成し、この基材シートの表面にスパンレース不織布などの薄い不織布を重ね、基材シートとスパンレース不織布などを接合してもよい。なお熱溶着可能な纖維を含む場合、熱溶着は熱エンボスローラを用いても良いし、あるいは超音波ホーンとアンビルを用いてもよい。

#### 【0040】

- 20 【発明の効果】以上詳述した本発明によれば、拭き取り領域の縁部に凹凸面が形成されるため、拭き取り作業の際の清掃用シートの姿勢を安定させることができます。また拭き取り領域の縁部に形成された凹部から比較的大きなゴミを清掃用シートの中央部に導くことができ、汚れを拭き取り領域全体で拭き取ることが可能となるため、清掃用シートを無駄なく有効に使用することができます。

#### 【図面の簡単な説明】

- 【図1】本発明の清掃用シートの第1の形態を示す斜視図、  
 【図2】図1の清掃用シートの縁部の構造を示す拡大断面図、  
 【図3】図1のX1又はX2方向から見たときの側面図、  
 【図4】清掃用シートの第2の実施の形態を示す平面図、  
 【図5】清掃用シートのさらに詳しい構造を示す平面図、  
 【図6】図5に示される清掃用シートの拡大斜視図、  
 【図7】本発明の清掃用シートの使用形態の一例を示す斜視図、  
 【図8】従来の清掃用シートを示す側面断面図、  
 【図9】従来の他の形態を示す側面断面図、  
 【図10】従来の清掃用シートの使用状態の一例であり、図8に示す清掃用シートの側面図

#### 【符号の説明】

- 1 清掃用シート
- 2 基材シート
- 3 繊維層
- 3a トウ(長纖維)
- 4 热溶着線

- 5 補助シート  
7 高高部  
11 取付け領域

9

- \* 12 拭き取り領域  
M 清掃用モップ  
\*  $\alpha, \alpha_1$  凹部

【図1】

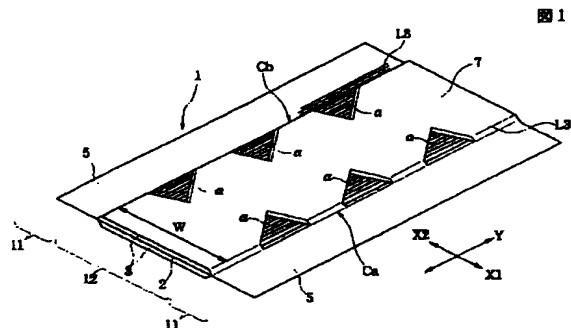


図1

【図2】

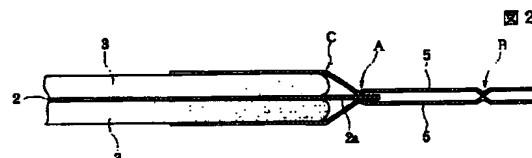


図2

【図3】

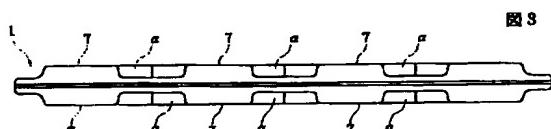


図3

【図4】

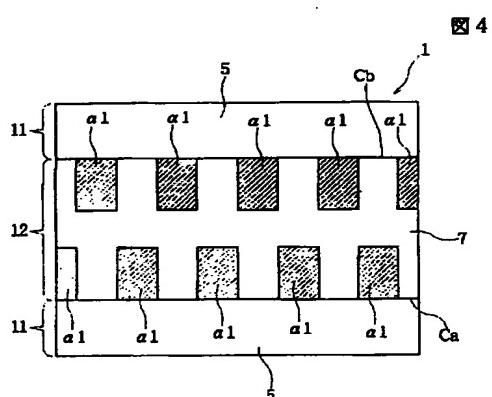


図4

【図6】

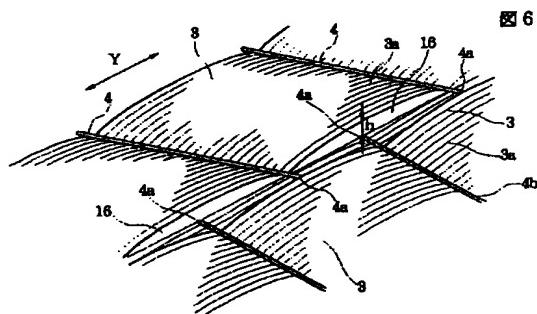


図6

【図8】

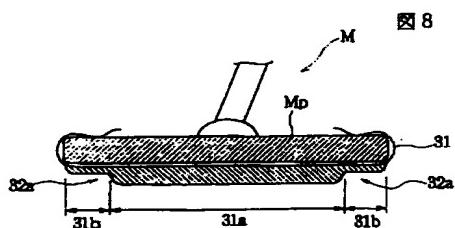


図8

【図7】

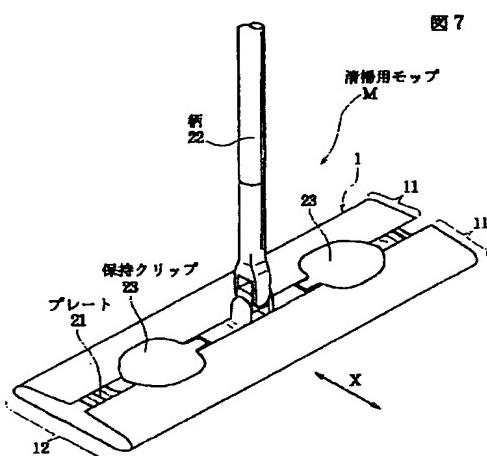
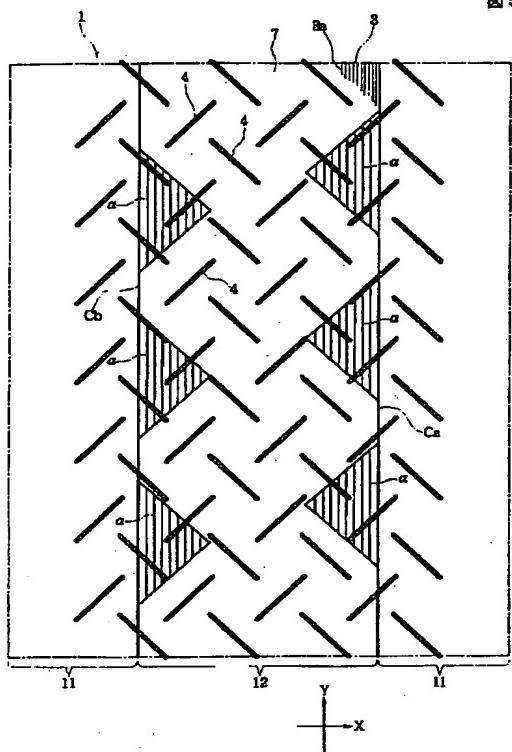


図7

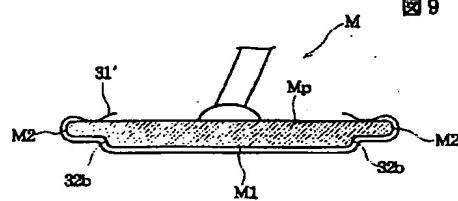
【図5】

図5



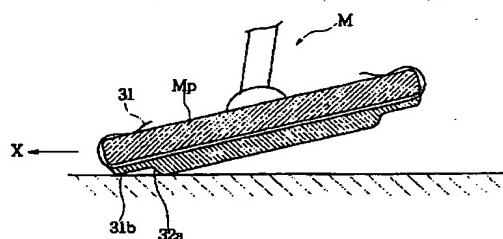
【図9】

図9



【図10】

図10



フロントページの続き

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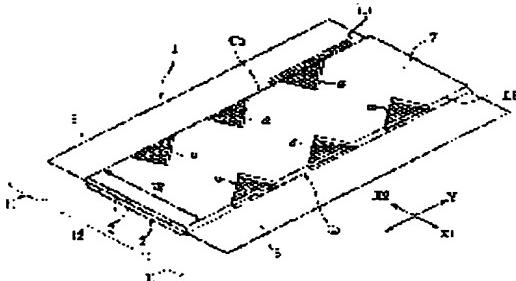
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## (54) CLEANING SHEET

### (57)Abstract:

PROBLEM TO BE SOLVED: To perform stable dust collection by forming a bulky wiping area which is formed in a prescribed thickness and has a fiber layer, and the recesses getting into the wiping area from boundaries with a thin mounting area extending from both sides thereof, spacedly along the boundaries in a plurality of places.

SOLUTION: In the cleaning sheet 1, a wiping area 12 is the part where a fiber layer 3 is layered on the surface and reverse on a substrate sheet 2. The parts of an auxiliary sheet 5 extending on both sides are mounting areas 11 for a cleaning mop or the like. A plurality of recesses  $\alpha$  getting into the wiping area 12 from boundaries Ca and Cb of two areas 12 and 11, are formed along the boundaries Ca and Cb. Each of the recesses  $\alpha$  is expanded most at the boundaries Ca and Cb, and gradually narrowed toward the center of the wiping area 12, formed into generally a triangle, for example, thereby stabilizing the tight contact between the wiping area 12 and a cleaned surface and facilitating the capture of dust in a bulky portion 7.



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CLAIMS

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[Claim(s)]

[Claim 1] The sheet for cleaning characterized by for the crevice which enters in said wiping field from the boundary section of said wiping field and said anchoring field to vacate spacing along with said boundary section, and to be formed it two or more places in the sheet for cleaning which has the bulky wiping field which has a fiber layer and was formed in predetermined thickness, and an anchoring field thinner than said wiping field which extends from the both-sides section of said wiping field.

[Claim 2] The flat-surface configuration of each crevice is a sheet for cleaning according to claim 1 which is the configuration to which a width method is the largest in said boundary section, and a width method becomes narrow gradually toward the core of said wiping field.

[Claim 3] The sheet for cleaning according to claim 1 or 2 arranged by a location shifting in the direction where two or more crevices which enter said wiping field from said one near boundary section of said wiping field, and two or more crevices which enter in said wiping field from said near boundary section of another side meet said boundary section mutually.

[Claim 4] Said crevice is a sheet for cleaning according to claim 1 to 3 currently formed by pressurizing or carrying out joining of said fiber layer.

[Claim 5]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

#### [0001]

[Field of the Invention] With respect to the sheet for disposable cleaning which is attached for example, in the mop for cleaning, and wipes off dirt, such as a floor line (cleaned field), especially, this invention makes the whole surface of the sheet for cleaning it is efficient and usable, and relates to the sheet for cleaning which heightened uptake capacity, such as dust.

#### [0002]

[Description of the Prior Art] The so-called sheet for disposable cleaning carries out uptake of dust or the dust using the complicated debt of fiber which has appeared in the front face, and is used, being attached in the plate prepared at the tip of the mop for cleaning.

[0003] While dust will tend to collect the edge of said plate of the sheets for cleaning on a wrap part since the base of a plate is a flat-surface configuration if it sweeps and cleaning using such a mop, in the field of the center of a base of said plate of the sheets for cleaning, it is hard to carry out uptake of the dust, and there is a problem that the whole sheet for cleaning cannot use effectively.

[0004] It is the side elevation of the sheet for cleaning which the flank sectional view showing the conventional sheet for cleaning for drawing 8 to cancel the aforementioned fault, the flank sectional view in which drawing 9 shows other conventional gestalten, and drawing 10 are examples of the busy condition of the conventional sheet for cleaning, and is shown in drawing 8 .

[0005] The sheet for cleaning (sheet for cleaning) shown in drawing 8 is as of the same kind as what is indicated by JP,10-5163,A, and the thickness dimension of middle region 31a of a sheet 31 is relatively formed thickly compared with the thickness dimension of the periphery regions 31b and 31b of the both ends. If this sheet 31 is attached in the mop M for cleaning etc., said middle region 31a is located in the field of the center of the plate Mp of the mop M for cleaning. In case cleaned fields, such as a floor line, are wiped with this sheet 31, while middle region 31a contacts a cleaned field, level difference section 32a is formed between said periphery region 31b and a cleaned field. And by moving the mop M for cleaning along a cleaned field, and doing a wiping activity, comparatively big dust can be brought together in said level difference section 32a, and it is possible to heighten the uptake effectiveness.

[0006] Moreover, in what is shown in drawing 9 , unlike what is shown in drawing 8 , the pars basilaris ossis occipitalis of the plate Mp of the mop M for cleaning itself is formed in a convex type configuration, and the level difference sections 32b and 32b are formed among these convex base M1 and its edges M2 and M2. If it cleans by covering the base M1 of this mop M for cleaning by sheet (flat-surface sheet) 31' for cleaning, the uptake of the comparatively big dust can be carried out in the part of said level difference section 32b.

#### [0007]

[Problem(s) to be Solved by the Invention] However, there is a problem as shown below in the above-mentioned Prior art. In the conventional thing shown in drawing 8 or drawing 9 , since the area which sheet 31' for cleaning which has covered the base M1 of middle region 31a of the sheet 31 for cleaning or the mop M for cleaning, and a cleaned field hit is narrower than the area

of the base of the mop M for cleaning, the mop M for cleaning tends to become unstable to a cleaned field. For example, the force of acting on the mop M for cleaning when moving the mop M for cleaning in the direction of X along a cleaned field, as shown in drawing 10  $R > 0$  tends to act so that Plate Mp may be leaned to a cleaned field. Thus, the plate Mp of the mop M for cleaning cannot move the mop M for cleaning smoothly to a cleaned field, if a cleaned field is wiped off in the state of an inclination posture.

[0008] Moreover, although the aforementioned thing is a configuration which heightens the uptake effectiveness by carrying out uptake of the comparatively big dust by level difference section 32a or 32b When the mop M for cleaning moves with an inclination posture, it receives in the migration direction (the direction of X) of the mop M for cleaning. what is shown in drawing 8 — the edge of periphery region 31b of a sheet 31 — moreover, in what is shown in drawing 9 , the edge M2 of the mop M for cleaning will contact a cleaned field, and these will be located ahead of said level difference section 32a or 32b. Therefore, penetration of the dust into level difference section 32a or 32b is barred, and there is a problem that the uptake effectiveness cannot fully be acquired.

[0009] This invention is for solving the above-mentioned conventional technical problem, and it aims at offering the sheet for cleaning which is stabilized and can perform uptake of dust. Moreover, this invention aims at offering the high sheet for cleaning of the uptake capacity of dust.

[0010]

[Means for Solving the Problem] This invention is characterized by for the crevice which enters in said wiping field from the boundary section of said wiping field and said anchoring field to vacate spacing along with said boundary section, and to be formed it two or more places in the sheet for cleaning which has the bulky wiping field which has a fiber layer and was formed in predetermined thickness, and an anchoring field thinner than said wiping field which extends from the both-sides section of said wiping field.

[0011] For example, a wiping field is installed in the base of the plate of the mop for cleaning, an anchoring field can wind up the above-mentioned sheet for cleaning on the top face of said plate, and a part of anchoring field [ at least ] is fixed to the top face of said plate. Preferably, the area of said wiping field is formed almost equally to the base of a plate.

[0012] Since the area can be made almost equal to a plate, a wiping field is in the condition attached in the mop for cleaning, when said wiping field is applied to cleaned fields, such as a floor line, the plate of the mop for cleaning is stabilized by it and the problem of a plate inclining, as shown in drawing 10 does not produce it. Moreover, since the crevice which attaches with a wiping field, wipes off from the boundary section of a field, and enters a field is formed, in this crevice, comparatively big dust can be incorporated and it can clean, using the comparatively large field of a wiping field effectively.

[0013] In the above, the flat-surface configuration of each crevice has the largest width method in said boundary section, and it is desirable that it is the configuration to which a width method becomes narrow gradually toward the core of said wiping field.

[0014] Moreover, it is desirable for a location to shift in the direction where two or more crevices which enter said wiping field from said one near boundary section of said wiping field, and two or more crevices which enter in said wiping field from said near boundary section of another side meet said boundary section mutually, and to be arranged. Thus, when the location of the crevice formed in the both-sides section of a wiping field was made different and the sheet for cleaning is moved to both directions, the dust of the location where a cleaned field changes with each crevices established in said both-sides section can be caught.

[0015] Said crevice is formed by pressurizing or carrying out joining of said fiber layer. in this case — the inside of said crevice — said fiber layer — the shape of much dot — or being formed is desirable by being pressurized in the shape of [ much ] a stripe, or carrying out joining. Thus, if joining of the fiber layer is partially carried out with the dot or the stripe in the crevice, the fiber of a fiber layer will appear in a front face in a crevice, and it will become easy to catch dust and a contaminant by this fiber.

[0016] Moreover, the sheet for cleaning of this invention can consist of said wiping fields by

carrying out the laminating of said fiber layer to the base material sheet. Moreover, the laminating of said fiber layer is carried out to both sides of a base material sheet, and wiping of said wiping field and said crevice is possible using front flesh-side both sides of the sheet for cleaning by being prepared in front flesh-side both sides of said base material sheet.

[0017] the fiber which forms said base material sheet and said fiber layer can heat weld -- containing -- said crevice -- setting -- said base material sheet and said fiber layer -- at least -- partial -- joining \*\*\*\* -- things are possible. Moreover, a crevice may be formed by mere pressurization or heating pressurization without joining.

[0018] Moreover, the fiber which forms said fiber layer may contain the long fiber prolonged almost in parallel with said boundary section. Or a fiber layer may be formed of the set of a single fiber. When using said long fiber, it is desirable that joining is partially carried out in parts other than said crevice. Thus, if constituted, long fiber, such as a tow, does not vary and fine dust can be caught in the clearance between long fiber and long fiber.

[0019]

[Embodiment of the Invention] The perspective view in which drawing 1 shows the gestalt of operation of the 1st of the sheet for cleaning of this invention, the expanded sectional view in which drawing 2 shows the structure of the edge of said sheet for cleaning, and drawing 3 are the side elevations when seeing the sheet for cleaning of drawing 1 from X1 or X 2-way. As for the sheet 1 for cleaning shown in drawing 1 , the fiber layer 3 is formed in front flesh-side both sides of the base material sheet 2. The fiber layer 3 has the shape of a rectangle which has a predetermined width method in the direction of X (longitudinal direction: cross direction), and is prolonged in the direction (lengthwise direction) of Y.

[0020] The fiber layer 3 is formed in the field of the center of the direction of X of the sheet 1 for cleaning, and in the both-sides section of the direction of X of the sheet 1 for cleaning, as shown in drawing 2 , the laminating of the auxiliary seats 5 and 5 is carried out to front flesh-side both sides of lobe 2a of the base material sheet 2. Therefore, the both-sides section of the direction of X of the fiber layer 3 is inserted by a part of base material sheet 2 and auxiliary seat 5. In the A point of drawing 2 , lobe 2a of the base material sheet 2 and auxiliary seats 5 and 5 are joined mutually. Moreover, the edges of auxiliary seats 5 and 5 are joined in the B point. Moreover, in other parts, the fiber layer 3, the base material sheet 2 or the fiber layer 3 and the base material sheet 2, and auxiliary seats 5 and 5 are joined mutually if needed [ of explaining later / the part and if needed ] for Crevice alpha.

[0021] As shown in drawing 1 , the part by which the laminating of the fiber layer 3 is carried out to front flesh-side both sides on the base material sheet 2 wipes off, and it is a field 12. Moreover, the part to which the auxiliary seat 5 of the both-sides section of the direction of X has extended serves as the anchoring field 11 for attaching in the mop for cleaning etc. The base material sheet 2 and auxiliary seats 5 and 5 are nonwoven fabrics, such as thermal bond, span bond, and a span ball race, and contain the fiber in which heat welding of PE, PP, PETs, or these bicomponent fibers is possible. Moreover, auxiliary seats 5 and 5 have a desirable point bond nonwoven fabric. Or the base material sheet 2 and auxiliary seats 5 and 5 may be a film, a nonwoven fabric, and paper. Long fiber, such as much continuous glass fibers (tow) with which said fiber layer 3 is prolonged in the direction of Y, or many strip-of-paper-like films (BS yarn), is bundled. This continuous glass fiber or a strip-of-paper-like film is also formed with PE, PP, PETs, or such composite material.

[0022] When the base material sheet 2, the auxiliary seat 5, and the fiber layer 3 contain the fiber in which heat welding is possible, heat joining of auxiliary seats 5 and 5 and the base material sheet 2 is carried out in the A point shown in drawing 2 , heat joining of an auxiliary seat 5 and the auxiliary seat 5 is carried out in a B point, and heat joining of the auxiliary seats 5 and 5 is further carried out to the base material sheet 2, the fiber layer 3, or the base material sheet 2 and the fiber layer 3 in other parts Crevice alpha and if needed.

[0023] Or the fiber layer 3 may be formed with the nonwoven fabric with a low fiber consistency with bulky [ of an Ayr through nonwoven fabric etc. ]. This Ayr through nonwoven fabric etc. may be pasted up on said base material sheet 2 with hot melt adhesive, or heat joining of an Ayr through nonwoven fabric etc. and the base material sheet 2 may be carried out.

[0024] Moreover, with the sheet 1 for cleaning shown in drawing 1 , it attaches with the wiping field 12 and two or more two or more crevices alpha which enter the wiping field 12 are formed along with the boundary sections calcium and Cb from the boundary sections calcium and Cb with a field 11. Each crevice alpha has the largest width method in the boundary sections calcium and Cb, and it is the flat-surface configuration to which the width method becomes small gradually towards the core of the wiping field 12, for example, Crevice alpha is a triangle. Or you may be U typeface.

[0025] In the boundary sections calcium and Cb, although Crevice alpha is formed in the direction of Y at fixed spacing, as the crevice alpha located in a line along with the boundary section calcium and the crevice alpha located in a line along with the boundary section Cb shift a location in the direction of Y, it is established in it. Consequently, the dust of a part which is different in the crevice alpha by the side of the boundary section calcium and the crevice alpha by the side of the boundary section Cb can be wiped off now in the time of making it move to the time of moving the sheet 1 for cleaning in the X1 direction along a cleaned field, and X 2-way.

[0026] These crevices alpha can be formed by carrying out heat welding, when a part of fiber layer 3 is pressurized heating pressurized or the fiber layer 3 and the base material sheet 2 contain the fiber in which heat welding is possible. The crevice alpha whole region is pressurized or heating pressurization is carried out, or when the whole crevice alpha surface is pressurized too much, it becomes impossible in this case, for the fiber of the fiber layer 3 to demonstrate the prehension effectiveness of dust or a contaminant in Crevice alpha, although heat welding may be carried out. therefore, the inside of Crevice alpha — said pressurization, the heating pressurization section (embossing section), or a welding — the shape of a dot — or if it extends in the direction of Y and forms in the direction of X in the shape of [ parallel ] a stripe, the prehension effectiveness of dust or a contaminant can be demonstrated for the fiber in Crevice alpha.

[0027] As shown in drawing 3 , when one is seen from sheet X1 for this cleaning direction, or X 2-way, other parts become [ Crevice alpha ] the bulky section (heavy-gage part) 7 by the thin-walled part. In addition, the fiber layer 3 may be formed only in one side of the base material sheet 2, or may be prepared in both sides. when the fiber layer 3 is formed in both sides of the base material sheet 2, said crevice alpha may be established only in the fiber layer 3 by the side of one side, or the double-sided fiber layer 3 boils it, respectively, and it may be prepared.

[0028] As shown in drawing 7 , the sheet 1 for cleaning can be used being attached in the mop M for cleaning. As for the mop M for cleaning, the shank 22 is attached in the plate 21. The wiping field 12 is installed in the pars-basilaris-ossis-occipitalis side of a plate 21, and the sheet 1 for cleaning of this invention is installed in the opposed face of cleaned fields, such as a floor, and the anchoring field 11 of the both ends of the sheet 1 for cleaning can wind it up on the top face of a plate 21, and it is held with the maintenance clip 23.

[0029] In case the plate 21 of the mop M for cleaning is slid in the direction of X along a cleaned field, since the bulky section 7 of the wiping field 12 has the width method W large enough, a cleaned field will be hit by the large width method W of the above [ the wiping field 12 of the wiping sheet 1 ], adhesion with the wiping field 12 and a cleaned field is stabilized, and a plate 21 does not incline like before. Moreover, for that purpose, the width method W of the wiping field 12 of the sheet 1 for cleaning and the width method of a plate 21 are mostly in agreement, and it is desirable that the area of the wiping field 12 and the base of a plate 21 is almost equal.

[0030] Moreover, since two or more crevices (thin-walled part) alpha are formed along with the boundary sections calcium and Cb, when moving a plate 21 to X1 direction and X 2-way along a cleaned field, Crevice alpha can catch effectively the dust and the comparatively big contaminant on a cleaned field. Moreover, since the dust on a cleaned field is collected and wiped off in said crevice alpha and is brought together in the center section of the field 12, it becomes easy to catch fine dust by the bulky sections 7 other than Crevice alpha, and wipes off like before, and only the edge of a field is not covered with dust. Consequently, it can clean by using the whole region of the wiping field 12 effectively.

[0031] If the pressurization, heating pressurization, or heat joining in Crevice alpha is especially

made into the shape of a slot, and the shape of a stripe which are elongated in the direction of Y still more preferably, it will become easy to take dust and a contaminant for the fiber in Crevice alpha. Moreover, it is become easy to catch a big contaminant in the part of the top-most vertices of the triangle of Crevice alpha that Crevice alpha is a triangle etc. If a location shifts in the direction of Y and Crevice alpha is furthermore alternately established in it in the boundary section calcium and the boundary section Cb, the contaminant of a part with which cleaned fields differ in the time of making it slide to the time of sliding 21 in the plate X1 direction and X 2-way can be caught in Crevice alpha.

[0032] Drawing 4 is the top view showing the gestalt of operation of the 2nd of the sheet for cleaning. In what is shown in drawing 4, it wipes off from the boundary sections calcium and Cb of the both sides of the wiping field 12 of the sheet for cleaning, and the crevice alpha 1 of the shape of a square or a rectangle is formed towards the center of a field 12. By forming in such a configuration as well as the above, it is stabilized and uptake of dust or the dust can be carried out efficiently. In addition, as mentioned above, the configuration of a crevice is not restricted to the shape of a triangle, a U character configuration, a square, or a rectangle, and can make the configuration of arbitration the thing of the shape for example, of a semicircle etc.

[0033] The top view showing detailed structure when drawing 5 is formed in the fiber layer 3 of the sheet for cleaning for long fiber, such as tow (continuous glass fiber) 3a or a strip-of-paper-like film, and drawing 6 are the partial expansion perspective views of the sheet for cleaning shown in drawing 5.

[0034] Like what was shown in drawing 1 and drawing 2, the laminating of the fiber layers 3 and 3 was carried out to the both sides of the base material sheet 2, and auxiliary seats 5 and 5 have put the structure of this sheet 1 for cleaning on the both-sides section of the fiber layers 3 and 3. The direction which the fiber layer 3 bundles long textile materials, such as tow (continuous glass fiber) 3a or a strip-of-paper-like film (BS yarn), and extends [ a / tow 3 ] is the direction (lengthwise direction) of Y. In the wiping field 12 where the laminating of the fiber layer 3 is carried out, the anchoring fields 11 and 11 where auxiliary seats 5 and 5 are prolonged, and the boundary sections calcium and Cb, it is formed so that the heat joining line 4 may cross said tow 3a etc. aslant to the direction of X, and the direction of Y, and this heat joining line 4 has arranged regularly in the direction of X, and the direction of Y.

[0035] Consequently, as shown in drawing 6, among the edges 4a and 4a of the heat joining line 4, a swelling is formed in long fiber, such as tow 3a, a pocket 16 is formed in flanks, such as tow 3a, and prehension of fine dust is attained in this pocket 16. Moreover, in Crevice alpha, stripe-like the pressurization section, the heating pressurization section (heat embossing), or the welding formed in the direction of X in the fine pitch along the direction of Y where tow 3a is prolonged is formed.

[0036] While a comparatively big contaminant is caught by Crevice alpha, dust and a contaminant wipe off by this crevice alpha, it is led to the center section of the field 12, and dust is caught in the bulky sections other than Crevice alpha by the pocket 16 shown in drawing 6 what is shown in drawing 5. Therefore, it wipes off, and the whole region of a field 12 is confirmed further and like [ of it ] can be carried out.

[0037] In addition, use of the sheet for cleaning of this invention is not restricted when using it, attaching in the mop for cleaning. For example, it is possible to use it for a handicap mop, using the sheet for cleaning, holding it by hand, or attaching it.

[0038] Moreover, it is desirable to make the sheet for cleaning of this invention contain oils, in order to make it easy to adsorb dust etc. Oils are synthetic oil, such as straight mineral oil, such as paraffin, and polyolefine, silicon oil, a surfactant, etc. Moreover, these oils can be wiped off and it can be made to contain only in the bulky sections 7 other than Crevice alpha in a field 12. In this case, in Crevice alpha, a comparatively big contaminant can be caught and it becomes easy to hold fine dust in the bulky section 7 in which oils were included. Moreover, the sheet for cleaning in this invention besides said oils can be made to contain matter, such as a deodorant, a moisturizer, and an antimicrobial agent.

[0039] In addition, as formation structure of said wiping field 12 and Crevice alpha, while forming the base material sheet 2 with a bulky nonwoven fabric, a foaming resin ingredient or a rubber

ingredient, etc., Crevice alpha may be formed in this base material sheet 2 by the press or embossing, a nonwoven fabric with a thin span ball-race nonwoven fabric etc. may be put on the front face of this base material sheet, and a span ball-race nonwoven fabric etc. may be joined to a base material sheet. In addition, when the fiber in which heat welding is possible is included, heat joining may use a heat embossing roller, or may use an ultrasonic horn and Annville.

[0040]

[Effect of the Invention] According to this invention explained in full detail above, since a concave convex is formed in the edge of a wiping field, the posture of the sheet for cleaning at the time of being a wiping activity can be stabilized. Moreover, comparatively big dust can be led to the center section of the sheet for cleaning from the crevice formed in the edge of a wiping field, and since it becomes possible to wipe off dirt and to wipe off in the whole field, the sheet for cleaning can be used effectively without futility.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] The perspective view showing the 1st gestalt of the sheet for cleaning of this invention,

[Drawing 2] The expanded sectional view showing the structure of the edge of the sheet for cleaning of drawing 1 ,

[Drawing 3] The side elevation when seeing from X1 or X 2-way of drawing 1 ,

[Drawing 4] The top view showing the gestalt of operation of the 2nd of the sheet for cleaning,

[Drawing 5] The top view showing the still more detailed structure of the sheet for cleaning,

[Drawing 6] The expansion perspective view of the sheet for cleaning shown in drawing 5 ,

[Drawing 7] The perspective view showing an example of the use gestalt of the sheet for cleaning of this invention,

[Drawing 8] The flank sectional view showing the conventional sheet for cleaning,

[Drawing 9] The flank sectional view showing other conventional gestalten,

[Drawing 10] The side elevation of the sheet for cleaning which is an example of the busy condition of the conventional sheet for cleaning, and is shown in drawing 8

[Description of Notations]

1 Sheet for Cleaning

2 Base Material Sheet

3 Fiber Layer

3a Tow (continuous glass fiber)

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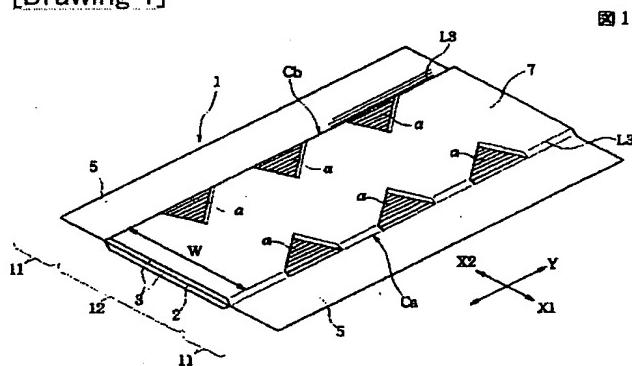
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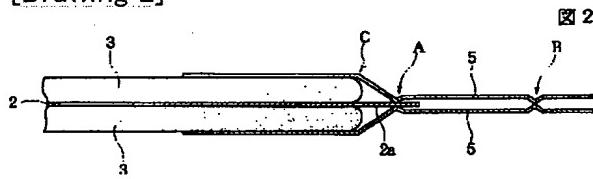
DRAWINGS

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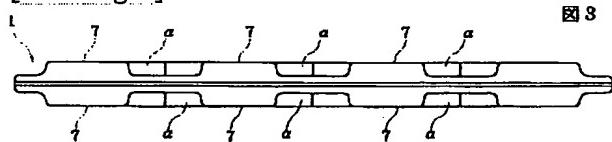
[Drawing 1]



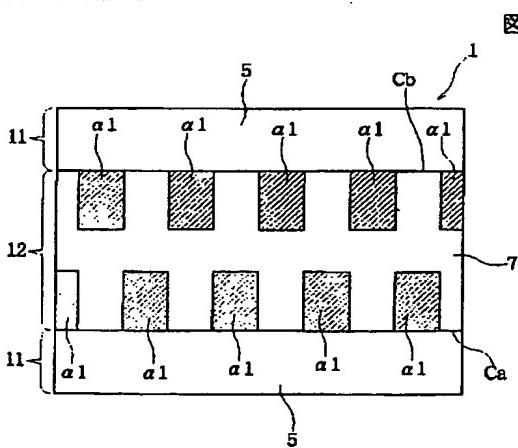
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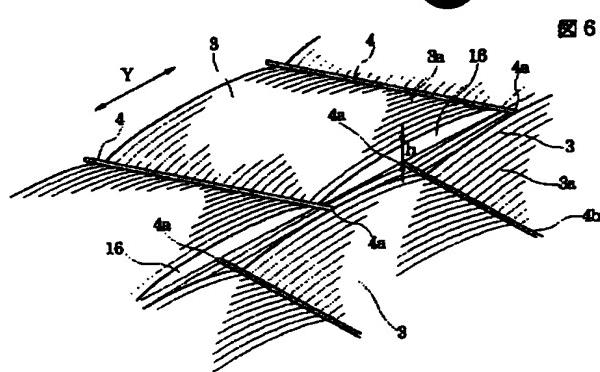
[Drawing 3]



[Drawing 4]



[Drawing 6]



[Drawing 7]

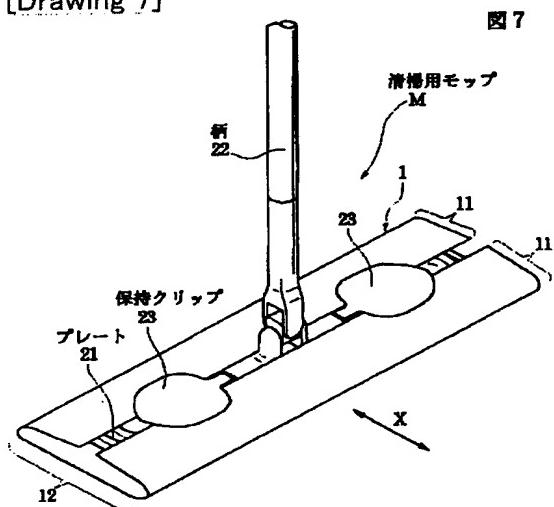


図 7

[Drawing 8]

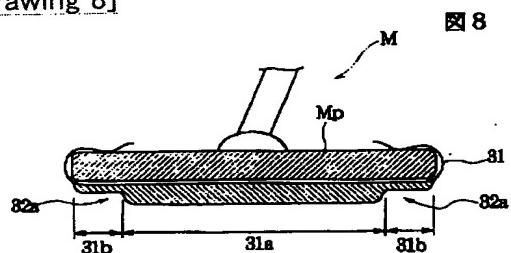
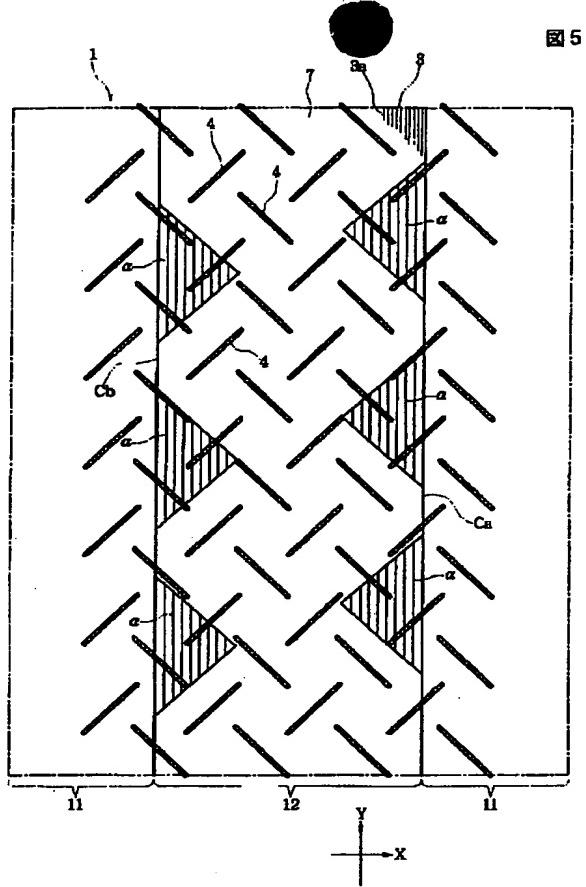
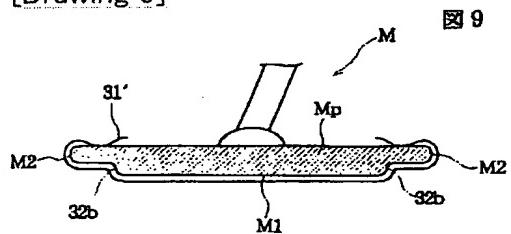


図 8

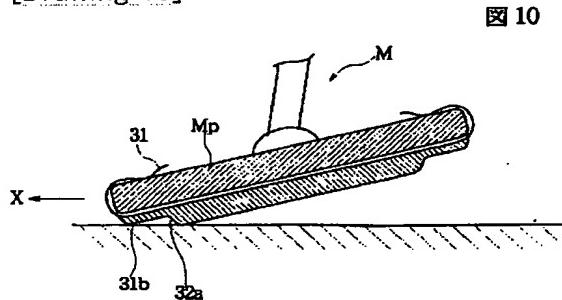
[Drawing 5]



[Drawing 9]



[Drawing 10]




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